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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/805,681	03/19/2004	LaShurya M. Wise	005127.00219	8555
22909	7590	04/20/2005	EXAMINER	
BANNER & WITCOFF, LTD. 1001 G STREET, N.W. WASHINGTON, DC 20001-4597			SUTTON, ANDREW W	
			ART UNIT	PAPER NUMBER
			3765	

DATE MAILED: 04/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/805,681

Applicant(s)

WISE ET AL.

Examiner

Andrew W. Sutton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-54 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Specification***

The specification is objected to due to the use of non-standard textile terms interweaving (woven?), interlooping (knitted?). Please make the proper corrections.

### ***Claim Objections***

Claims 4, 14, 22, 28, 32, 40, 46, and 50 are objected to due to the use of non-standard textile terms interweaving (woven?), interlooping (knitted?). Please make the proper corrections.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-54 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant claims yarn going through a dimensional-transformation upon exposure to a physical stimulus. The applicant states no disclosure as to how the yarns transform due to the exposure to this stimulus (i.e. what causes it?) just the fact that it does change. Is this due to the chemical composition of this yarn? Is this due to the manufacturing method of this yarn? (i.e. open ended, or ring spun, etc.) Is this due to a finish (mechanical or chemical) to the yarn that gives the yarns these properties?

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-10, 20-24 are rejected under 35 U.S.C. 102(b) as being anticipated by O'Neill (US 4,392,258). O'Neill discloses (Col. 1 line 32) a loose woven shirt.

As to claims 1-7, 20-23 the cotton yarn cross section would have a first set of dimensions when no stimulus is present. When water (stimulus) is added to a cotton fiber the cross section of the fiber swells, thus swelling the yarn. When the yarn swells due to the water, the area between the yarns would reduce due to the swelling. Since the yarns were larger in cross section, the air permeability of the fabric would be reduced.

As to claims 8 and 24, when the yarns would dry due to a physical stimulus (air), the yarn will reduce in size thus increasing the area between which in turn would increase the air permeability of the fabric.

As to claims 9, 25, and 36, due to the yarn being woven, it is inherent that the yarn is undulating.

As to claims 10 and 26, a substantial portion of the garment is made of the yarns discussed above.

Claims 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Driggers (US 6,253,582). O'Neill discloses (abstract) a knitted fabric with air spun polyesters as

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one set of yarns (front) and cotton as the second set (back). The fabric is used for articles of apparel.

As to claims 14-16, 28, 40-42 the cotton yarn cross-section would have a first set of dimensions when no stimulus is present. When water (stimulus) is added to a cotton fiber the cross section of the fiber swells, thus swelling the yarn. When the yarn swells due to the water, the area between the yarns would reduce due to the swelling. Since the yarns were larger in cross section, the air permeability of the fabric would be reduced.

Claims 11-13, 27 32-35, 37-39, and 50-53 are rejected under 35 U.S.C. 102(b) as being anticipated by Hamilton (US 5,645,924). Hamilton discloses yarn (second yarn) comprising spandex and polymeric fiber for use in making stretchable woven fabric (Col. 3 Lines 44-47). The yarn would not absorb water, which would mean that the size cross-section of the yarn would not change due to the stimulus. Hamilton discloses (Col. 4 Lines 51-58) that the elastic yarn could be used with a yarn made of cotton. The cotton yarn (first yarn) would absorb water and swell due to the moisture absorption. This would decrease the area between the yarns and reduce the air permeability. The two yarns can be used in the weft/ warp directions or in the warp/weft directions. Due to the yarns being woven, they would have an undulating configuration.

Claims 17-19, 29-31, 43-45 and 54 are rejected under 35 U.S.C. 102(b) as being anticipated by Chesebro (US 5,095,548). Chesebro illustrates (figure 4) a knitted sock with a hydrophilic yarn Y-2 and a hydrophobic yarn Y-1. The fabric would have a first texture before a stimulus is exposed to it. When a stimulus (water) is exposed to it, the

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hydrophilic yarn would absorb water, thus increasing in size. This would change the texture of the fabric making the hand feel rougher, due to the increase in the yarn diameter. This would make the fabric feel as if it has nodes extending from the fabric.

As to claim 54, Chesebro discloses using hydrophobic and hydrophilic yarns, which have different water absorbency and dimensional-transformation properties. The yarns are then knitted to form a fabric that would change upon exposure to water. When water (stimulus) is added to a cotton fiber the cross section of the fiber swells, thus swelling the yarn. When the yarn swells due to the water, the area between the yarns would reduce due to the swelling. Since the yarns were larger in cross section, the air permeability of the fabric would be reduced.

Claims 46-49 are rejected under 35 U.S.C. 102(b) as being anticipated by Driggars (US 6,253,582). Driggars discloses (abstract) a double-knit fabric with an air jet spun polyester on front side and the backside made of cellulosic yarns. The fabric would have a first texture before a stimulus is exposed to it. When a stimulus (water) is exposed to it, the hydrophilic yarn (cotton) would absorb water, thus increasing in size. This would change the texture of the fabric making the hand feel rougher, due to the increase in the yarn diameter. This would make the fabric feel as if it has nodes extending from the fabric. The hydrophilic yarns would not absorb any water.

### ***Conclusion***

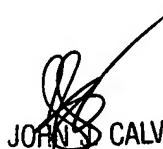
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Serra et al. (US 6,698,510) and Buckley (US 2002/0164474) disclose materials that have property changing capabilities.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew W. Sutton whose telephone number is (571) 272-6093. The examiner can normally be reached on Monday - Friday 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John J. Calvert can be reached on (571) 272-4983. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AWS  
18 April 2005

  
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SUPERVISORY PATENT EXAMINER  
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